

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method for viewing seismic data comprising:
- a. generating a prestack seismic display having a plurality of CMP gathers, wherein each gather has constant spatial coordinates associated therewith;
 - b. for each CMP gather, defining a time or depth window around seismic data of interest;
 - c. plotting said window in plan view using the spatial coordinates associated with said window to generate a multidimensional plan view, **wherein said multidimensional plan view utilizes at least four dimensions.**
2. (original) The method of Claim 1 further comprising the step of overlaying the multidimensional plan view on a second seismic representation.
3. (original) The method of Claim 2 wherein the second seismic representation is a contour map.
4. (original) The method of Claim 1 further comprising the step of inserting the multidimensional plan view into an immersive environment.
5. (currently amended) A method for viewing seismic data related to a lithologic structure comprising:
- a. generating a poststack seismic display having a plurality of poststack traces around a point of interest, wherein each poststack trace has a constant spatial coordinates associated therewith;
 - b. for each poststack trace, defining a time or depth window around seismic data of interest;

- c. plotting said window in plan view using the spatial coordinates associated with said window to generate a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.

6. (original) The method of Claim 1 further comprising the steps of analyzing trends in the data segments by viewing multiple segments in spatial relationship to one another.

7. (currently amended) A method for viewing seismic data having a plurality of dimensions associated therewith, said method comprising:

- a. presenting the seismic data in a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.

8. (currently amended) The method of Claim 7 wherein said ~~multidimensional plan view~~ utilizes at least four dimensions comprise an x-dimension, a y-dimension, a depth dimension and a fourth dimension for the seismic data and wherein said fourth dimension is based on another seismic attribute of the seismic data.

9. (original) The method of Claim 5 further comprising the steps of analyzing trends in the data segments by viewing multiple segments in spatial relationship to one another.